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In Reply Please Quote Our Reference

Your Ref : LPN/DL/MY/T.2006007092
Our Ref : 2006054001/080717/TMMHO/6880
Date : 17/07/2008
Writer's Direct Line : 63302748

ALLEN & GLEDHILL LLP
#28-00
ONE MARINA BOULEVARD
SINGAPORE 018989

RECEIVED
21 JUL 2008
ALLEN & GLEDHILL LLP

Dear Sir,

Singapore Patent Application No.: 200605400-1
Title of invention: RESIZING OF BUFFER IN ENCODER AND DECODER
Applicant(s): NOKIA CORPORATION (FI)

INVITATION TO RESPOND TO WRITTEN OPINION

We forward with this letter a copy of the Search Report and Written Opinion drawn up by the Examiner in connection with your request for a Search and Examination Report.

You are invited to respond to the opinion by submitting:

(a) Written submissions or arguments disagreeing with the Examiner's opinion and/or
(b) An amendment of the specification of the application.

If you intend to respond, the response must be filed within 5 months from the date of this letter. You are also advised to inform us early if you do not intend to respond.

The Examiner will proceed to establish the Examination Report if no response is received by the end of the prescribed period.

If you have any further queries, please do not hesitate to contact the undersigned.

Thank you.

Yours faithfully,

Muhammad Haramain Osman
for REGISTRAR OF PATENTS
SINGAPORE

30 JUN 2008 3 JUL 2008 200702465 3

DANISH PATENT AND TRADEMARK OFFICE

SINGAPORE WRITTEN OPINION

Application No.
SG200605400-1

Date of mailing:	DKPTO SE No.	REPLY DUE: within FIVE MONTHS of the date of the Registrar's letter enclosing the written opinion	
	SE 2008 00789H		
Applicant's or agents file reference		Application filing date	Priority date
LPN/DL/MY/T.2006007092		14/02/2005	13/02/2004

International Patent Classification (IPC) (as indicated in the search report)

Int. Cl[8].
H04N7/24, H04N7/32

Applicant:

NOKIA CORPORATION

1. This first written opinion consists of a total of 9 sheets.
2. This opinion contains indications relating to the following items:

I	[x]	Basis of the opinion
II	[]	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
III	[]	Lack of unity of invention
IV	[x]	Reasoned statement with regard to novelty, inventive step or industrial applicability; Citations and explanations supporting such statement
V	[]	Certain documents cited
VI	[]	Certain defects in the application
VII	[x]	Certain observations on the application

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3. This opinion is based upon the assumption that the priority claim is valid
4. The search report was issued by The Danish Patent Office, and the date of completion is 18/06/2008
5. If no reply is filed, the examination report will be established on the basis of this opinion.
6. The date by which the examination report will be established is: 13/11/2008

Date of submission of the request to the Danish Patent and Trademark Office: 25/01/2008	Date of Written Opinion: 18/06/2008
Name and mailing address	Authorized Officer
Danish Patent and Trademark Office Helgeshøj Allé 81 2630 Taastrup **Denmark** Tel. No.: +45 4350 8000 Fax No.: +45 4350 8001	Steffen Skanning

ACTION

DANISH PATENT AND TRADEMARK OFFICE **SINGAPORE WRITTEN OPINION**	**Application No.** SG200605400-1

I. Basis of the opinion

1. This opinion has been drawn on the basis of:

☐ The application as originally filed.

☒ The description, pages, 1-46 as originally filed,
pages, ... filed with the request
pages, received on with the letter of

☒ The claims, pages, ... as originally filed,
pages, 47-50 filed with the request
pages, received on with the letter of

☒ The drawings, sheets 1-11/figures 1-12, as originally filed,
sheets/fig, ... filed with the request
sheets/fig, received on with the letter of

☐ The sequence listing part of the description:
pages, ... as originally filed,
pages, ... filed with the request
pages, received on with the letter of

☐ Applicants reply dated.....

2. The amendments have resulted in the cancellation of: pages:
sheets of drawings/figures no.

3. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental box.

4. Additional observations, if necessary:

Please note that this will be the final *opinion* drawn up in respect of this application. The next examination action will be establishment of an examination report.

II. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire application,

☐ claims no.'s:

because

☐ the description, claims or drawings (*indicate particular elements below)* or said claims no.'s are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims no.'s are so inadequately supported by the description that no meaningful opinion could be formed:

☐ no search report has been established for said claim no.'s

III. Lack of unity of invention

1. There are multiple inventions in this application, as follows:

2. Consequently, the following parts of the application were the subject of examination in establishing this opinion:

☐ all parts

☐ the parts relating to claims no.'s

IV. Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement.

1. Statement:

Novelty	YES	Claims 1-16
	NO	Claims
Inventive step	YES	Claims
	NO	Claims 1-16
Industrial applicability	YES	Claims 1-16
	NO	Claims

2. Citations and explanations:

Citations:

D1: US 2002/0105951 A1 (HANNUKSELA et al.) 8 August 2008

D2: US 6023233 A (CRAVEN et al.) 8 February 2000

Novelty:

None of the cited documents explicitly describe all the features mentioned in claims 1-16 and the content of these claims is considered to have novelty.

Inventive step:

D1 describes a method and system for streaming media data comprising a transmitting device (source server) with a transmitter and processing means, a transmission network, and a receiving device (client device, figure 1). The media data is compressed and encoded at the server location and transmitted to a pre-decoder buffer in the receiving device, see paragraph 38. The transmission order is partly different from the decoding order, see figure 2. The maximum occupancy level defines the minimum buffer size, see paragraphs 38. A parameter indicating the buffer size is transmitted between the transmitting device and the receiving device, see paragraphs 40-41 and 46-49, where the pre-decoder buffer size in the receiving device is adjusted according to the parameter.

Continued in supplemental box.

V. Certain documents cited

1. Certain published documents:

Category	Application no. Patent no.	publication date *(day/month/year)*	Filing date *(day/month/year)*	Priority date (valid claim) *(day/month/year)*

2. Non-written disclosures

Kind of non-written disclosure	Date of non-written disclosure *(day/month/year)*	Date of written disclosure referring to non-written disclosure *(day/month/year)*

VI. Certain defects in the application

The following defects in the form or contents of the application have been noted:

VII. Certain observations on the application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

[x] The claimed invention is patentable according to section 13(2) of SG Patents Act.

[] The claimed invention is unpatentable according to Section 13(2) of SG Patents Act, because:

In case of divisional application filed under section 20(3) or 47(4) or as mentioned in section 26(6) with a date of filing on or after 1 July 2004:

[] The application complies with section 84(1) of SG Patents Act.

[] The application does not comply with section 84(1) of SG Patents Act, and comments on the additional matter are in the supplemental box.

Supplemental Box
(To be used when the space in any of Boxes I to VII is not sufficient)

Continuation of Box [IV]:

Continuation of 2. Citations and explanations

Inventive step - continued:

D2 describes a method and system for streaming encoded data comprising a transmitting device (lossless encoder) with an encoder (20) and a hypothetical reference decoder (decoder model), a transmission medium (e.g. radio), and a receiving device (lossless decoder) with pre-decoding buffer (FIFO buffer) and decoder (70). The hypothetical reference decoder describes a model of the decoder and is used to generate a parameter sent to the receiving device indicating the buffer size, see reference 130 in figure 4 and column 11, line 43-55.

The closest prior art D1 describes streaming data between a transmitting device and receiving device using a parameter to indicate the decoder buffer size, where the decoder buffer size is indicated by the receiving device or selected from a number of predetermined buffer sizes in the transmitting device. The buffer size mentioned in claims 1, 3-5, and 8-16 differs from D1 by being defined by the hypothetical reference decoder. D2 describes streaming data between a transmitting device and receiving device, where a hypothetical reference decoder in the transmitting device defined the buffer size in pre-decoder buffer in the receiving device.

A person skilled in the art of streaming data, wanting to reduce the initial data traffic, is considered to be inspired by the teachings of D2 to describe the same features as mentioned in claims 1, 3-5, and 8-16. The features described in claims 1, 3-5, and 8-16 is not considered to have an inventive step over the combination of D1 and D2.

The further features mentioned in claims 2 and 6-7 describe the use of a known standard to a person skilled in the art of media data streaming. The features described in claims 2 and 6-7 is not considered to have an inventive step of the combination.

Industrial Applicability:

The features described in claims 1-16 are considered to have industrial applicability.

DANISH PATENT AND TRADEMARK OFFICE **SINGAPORE SEARCH REPORT**	**Application No.** SG200605400-1

Date of mailing: 25 JUNI 2008	DKPTO SE No. SE 2008 00789H	
Applicant's or agents file reference LPN/DL/MY/T.2006007092	Application filing date 14/02/2005	Priority date 13/02/2004
Applicant: NOKIA CORPORATION		IPOS 30JUN'08 18:31

This search report consists of a total of 7 sheets.

[x] It is also accompanied by a copy of each prior art document cited in this report

1. [] Certain claims were found **unsearchable** *(See Box I)*
2. [] **Unity of invention** is lacking *(See Box II)*
3. [] The following claims concerns **excluded matter**:
4. [] The application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the was carried out on the basis of the sequence listing
 - [] filed with the application
 - [] furnished by the applicant separately from the application
 - [] but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in application as filed
5. With regard to the **title**
 - [x] the text is approved as submitted by the applicant
 - [] the text has been established by this Office to read as follows:

6. With regard to the **abstract**
 - [] the text is approved as submitted by the applicant
 - [x] the text has been established by this Office as appears in Box III
7. The figure of the **drawings** to be published with the abstract is:

 Figure 8

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 - [x] as suggested by the applicant
 - [] because the applicant failed to suggest a figure
 - [] because this figure better characterises the invention
 - [] none of the figures

DANISH PATENT AND TRADEMARK OFFICE SINGAPORE SEARCH REPORT	Application No. SG200605400-1

BOX I. Observations where certain claims were found unsearchable

This search report has not been established in respect of certain claims for the following reason:

claims no.'s

because they relate to parts of the application that do not comply with the prescribed requirements (sections 25(4) and 25(5)) to such an extent that no meaningful search can be carried out, specifically:

BOX II. Observations where unity of invention is lacking

The Office found multiple inventions in this application, as follows:

The application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion this Office has found that there are inventions:

1. ☐ Accordingly, this Office is reporting only on the main invention of claims.....

BOX III. Text of the abstract

Resizing of buffer in encoder and decoder

A method, device and system for buffering encoded pictures comprising a transmission device (6), including an encoder (1) and a hypothetical reference decoder (5), and a receiving device (8), including a pre-decoding buffer (9.1) and a decoder (2). The transmitter transmits the pictures as transmission units according to a transmission order, which may differ from the decoding order, to the pre-decoding buffer in the receiver. The buffer size is defined so that the total size of at least two transmission units is defined and the maximum buffer size is defined based on the total size using the hypothetical reference decoder. The buffer size is transmitted to a processor in the receiving device, which sets the pre-coding buffer to the received buffer size.

Figure 8

DANISH PATENT AND TRADEMARK OFFICE **SINGAPORE SEARCH REPORT**	**Application No.** SG200605400-1

A. Classification of subject matter

Int. Cl[8]. H04N7/24, H04N7/32

According to International Patent Classification (IPC)

B. Fields searched

Minimum documentation searched (classification system followed by classification symbols)

IPC: H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched:

.....

Electronic database consulted during the search (name of the database and, where practicable, search terms used)

http://www.epatents.gov.sg, EPODOC, WPI

C. Documents considered to be relevant

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim no.
Y	US 2002/0105951 A1 (HANNUKSELA et al.) 8 August 2008 See paragraphs 35-51 and figure 2.	1-16
Y	US 6023233 A (CRAVEN et al.) 8 February 2000 See column 9, line 43-64, column 11, line 43-55, column 13, line 50 - column 14, line 20, and figure 1-4.	1-16
A, P	WO 2004/075555 A1 (NOKIA CORPORATION) 2 September 2004 See abstract, page 13, line 27 - page 14, line 19, and figures.	-
A	US 2003142689 A1 (HABERMAN et al.) 31 July 2003 See abstract, paragraphs 70, 72, and figure 1, 8, 9-12.	-
A	US 6493388 B1 (WANG) 10 December 2002 See abstract and figure 2-3, 6.	-

DANISH PATENT AND TRADEMARK OFFICE **SINGAPORE SEARCH REPORT**	**Application No.** SG200605400-1

	x	See patent family annex

*	Special categories of cited documents	"P"	Document published prior to filing data but later than priority date claimed
"A"	Document defining the general state of the art which is not considered to be of particular relevance	"T"	Later document published after the filing date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	Earlier document but published on or after the filing date	"X"	Document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	Document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	Document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such combination being obvious to a person skilled in the art
"O"	Document referring to an oral disclosure, use, exhibition or other means	"&"	Document member of the same patent family

Date of submission of the request to the Danish Patent and Trademark Office: 25/01/2008	Date of search report: 18/06/2008
Name and mailing address Danish Patent and Trademark Office Helgeshøj Allé 81 2630 Taastrup **Denmark** Tel. No.: +45 4350 8000 Fax No.: +45 4350 8001	Authorized Officer Steffen Skanning

DANISH PATENT AND TRADEMARK OFFICE SINGAPORE SEARCH REPORT	Application No. SG200605400-1

ANNEX - Patent family members

This annex lists the patent family members relating to the patent documents cited in the search report
The members are as contained in the European Patent Office EPD file.
The office is in no way liable for the particulars which are merely given for the purpose of information

Patent document cited in search report / Publication date	Patent family members / Publication date
US2002105951 A1 20020808	JP2006345582 A 20061221 DE60207381T T2 20060824 AT310275T T 20051215 EP1605347 A1 20051214 ZA200306100 A 20040906 MXPA03007096 A 20031118 RU2003127066 A 20050110 RU2302032 C2 20070627 JP2004525556T T 20040819 HU0302621 A2 20031128 HU0302621 A3 20050829 WO02063461 A1 20020815 EP1358542 A1 20031105 EP1358542 B1 20051116 EE200300316 A 20031015 EE4862 B1 20070615 CN1491381 A 20040421 CA2435936 A1 20020815 BR0206630 A 20040217 FI20010239 A 20020809 FI118830B B1 20080331
US6023233 A 20000208	None
WO2004075555 A1 20040902	KR20050099999 A 20051017 JP2006515137T T 20060518 CN1751518 A 20060322 MXPA05008404 A 20051005 RU2005129107 A 20060320 BRPI0407527 A 20060214 US2004223551 A1 20041111 EP1595405 A1 20051116

	CA2515354 A1 20040902 AU2004214313 A1 20040902 AU2004214313 A2 20040902
US2003142689 A1 20030731	WO2004019530 A1 20040304 US7382796 B2 20080603 AU2003215292 A1 20040311
US6493388 B1 20021210	MXPA02010321 A 20030523 WO0180570 A2 20011025 WO0180570 A3 20020815 EP1279292 A2 20030129 CN1436428 A 20030813 CN1215721C C 20050817 CA2406251 A1 20011025 AU9335501 A 20011030

DANISH PATENT AND TRADEMARK OFFICE **SINGAPORE WRITTEN OPINION**	**Application No.** SG200605400-1

Date of mailing:	DKPTO SE No. SE 2008 00789H	REPLY DUE: within FIVE MONTHS of the date of the Registrar's letter enclosing the written opinion	
Applicant's or agents file reference LPN/DL/MY/T.2006007092		Application filing date 14/02/2005	Priority date 13/02/2004
International Patent Classification (IPC) (as indicated in the search report)			
Int. Cl[8]. H04N7/24, H04N7/32			
Applicant: NOKIA CORPORATION			

1. This first written opinion consists of a total of 9 sheets.
2. This opinion contains indications relating to the following items:

I	[x]	Basis of the opinion
II	[]	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
III	[]	Lack of unity of invention
IV	[x]	Reasoned statement with regard to novelty, inventive step or industrial applicability; Citations and explanations supporting such statement
V	[]	Certain documents cited
VI	[]	Certain defects in the application
VII	[x]	Certain observations on the application

3. This opinion is based upon the assumption that the priority claim is valid
4. The search report was issued by The Danish Patent Office, and the date of completion is 18/06/2008
5. If no reply is filed, the examination report will be established on the basis of this opinion.
6. The date by which the examination report will be established is: 13/11/2008

Date of submission of the request to the Danish Patent and Trademark Office: 25/01/2008	Date of Written Opinion: 18/06/2008
Name and mailing address Danish Patent and Trademark Office Helgeshøj Allé 81 2630 Taastrup **Denmark** Tel. No.: +45 4350 8000 Fax No.: +45 4350 8001	Authorized Officer Steffen Skanning

BOX III. Text of the abstract

Resizing of buffer in encoder and decoder

A method, device and system for buffering encoded pictures comprising a transmission device (6), including an encoder (1) and a hypothetical reference decoder (5), and a receiving device (8), including a pre-decoding buffer (9.1) and a decoder (2). The transmitter transmits the pictures as transmission units according to a transmission order, which may differ from the decoding order, to the pre-decoding buffer in the receiver. The buffer size is defined so that the total size of at least two transmission units is defined and the maximum buffer size is defined based on the total size using the hypothetical reference decoder. The buffer size is transmitted to a processor in the receiving device, which sets the pre-coding buffer to the received buffer size.

Figure 8

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